

# MATERIAL SAFETY DATA SHEET

CCA Pressure-Treated Wood  
Date Prepared: 10/11/95 REV. 02

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Chromated-Copper-Arsenate (CCA)  
Pressure-Treated Wood  
General Use: Treated wood products

MANUFACTURER'S NAME AND ADDRESS:

TELEPHONE NUMBER(S):

DURABLE WOOD PRESERVERS, INC.  
P O BOX 25825  
CHARLOTTE NC 28229-5825

704 537-3113

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS NUMBER	PERCENT	EXPOSURE LIMIT	(mg/m <sup>3</sup> )
Chromium (III)	7440-47-3	<2**	OSHA-PEL (as Cr) ACGIH-TLV (as Cr)	1.0 0.5
Arsenic (V)	7440-38-2	<2**	OSHA-PEL (as As) ACGIH-TLV (as As)	0.01 0.01
Copper	7440-50-8	<2**	OSHA-PEL (dusts/mists) ACGIH-TLV (dusts/mists)	1.0 1.0
Wood dust* (regulated as a particulate)	None		OSHA-PEL (total dust (respirable fraction) ACGIH-TLV (softwood) ACGIH-STEL (softwood)	15.0 5.0 5.0 10.0

OSHA - Occupational Safety and Health Administration

ACGIH - American Conference of Governmental Industrial Hygienists

PEL - Permissible Exposure Limit

TLV - Threshold Limit Value

STEL - Short-Term Exposure Limit (15 minute exposure standard)

SARA Section 313 Chemicals: Arsenic, Chromium and Copper compounds

\* A state-run OSHA program may have more stringent limits for wood dust.  
Please contact the state representative for further details.

\*\* Based on wood retention of 0.6 pounds CCA per cubic foot of wood.  
Actual retention percentages may vary slightly due to differences in  
wood stock and treatment retention levels.

### 3. HAZARDS IDENTIFICATION

#### Inhalation:

Airborne treated or untreated wood dust may cause nose, throat or lung irritation and other respiratory effects. Burning treated wood can release toxic metals into ash and possibly smoke. Various species of untreated wood dust can elicit allergic respiratory response in sensitized persons.

#### Eye Contact:

Treated or untreated wood dust may cause mechanical irritation.

#### Skin Contact:

Handling wood may result in skin exposure to splinters. When there is prolonged and/or repeated direct contact with treated or untreated wood dust, mild, transient irritation may occur. Various species of untreated wood dust can elicit allergic contact dermatitis in sensitized individuals.

#### Ingestion:

Not anticipated to occur. A single ingestion by a small child of a large amount (approximately 2.5 ounces or 6 cubic inches) of treated wood dust may require immediate medical attention.

#### Chronic effects:

Treated or untreated wood dust, depending on species, may cause dermatitis on prolonged, repetitive contact; may cause respiratory sensitization and/or irritation.

The International Agency for Research on Cancer (IARC) classifies untreated wood dust, inorganic arsenic and hexavalent chromium as human carcinogens (SEE NOTE). The wood dust classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with occupational exposures to untreated wood dust.

#### Note:

Some forms of the components of the liquid preservative used to manufacture this product (arsenic and chromium) have caused lung, skin and possibly other cancers in humans occupationally or environmentally overexposed. REPORTS OF THESE CANCERS DO NOT INCLUDE THE CCA-TREATED WOOD INDUSTRY OR THE USE OF CCA-TREATED WOOD. Warning: This product contains chemicals known to the State of California to cause cancer.

#### 4. FIRST AID MEASURES

**Inhalation:**

Remove from wood dust exposure. If breathing has stopped or is difficult, administer artificial respiration or oxygen. Seek medical aid if symptoms persist.

**Eye Contact:**

Gently flush any particles from the eyes with large amounts of water for at least 15 minutes. DO NOT RUB THE EYES.

**Skin Contact:**

Rinse skin free of material with water to avoid abrasion of skin. DO NOT RUB until skin is free of material then wash thoroughly with soap and water.

**Ingestion:**

Rinse the victims mouth out with water. Induce vomiting only if directed by a physician or at the advice of a poison center.

**Note to Physician:**

If one ounce of treated wood dust per 10 lbs. of body weight is ingested, acute arsenic intoxication is a possibility.

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#### 5. FIRE FIGHTING MEASURES

Flash Point.....Not Applicable  
Auto-ignition.....Not Available  
Lower Explosive Limit.....Not Applicable  
Upper Explosive Limit.....Not Applicable

**Extinguishing Agents:**

Use water, dry chemical, or other common extinguishing media.

**Fire-Fighting Procedures:**

Fire from a separate fuel source may be intense enough to cause thermal decomposition releasing harmful fumes and/or gasses including oxides of carbon and nitrogen. Wear complete fire service protective equipment, including full-face National Institute of Occupational Safety and Health (NIOSH)-approved self-contained breathing apparatus.

**Fire and Explosion Hazards:**

High airborne levels of wood dust may burn rapidly in the air when exposed to an ignition source.

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6. ACCIDENTAL RELEASE MEASURES

Spill or leak Procedures (Product): Not Applicable

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7. HANDLING AND STORAGE

Storage Conditions:

Protect from physical damage. Maintain good housekeeping.

Caution:

Whenever possible, sawing or machining treated or untreated wood should be performed outdoors to avoid accumulations of airborne wood dust.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection:

Not required under normal use conditions. When sawing or cutting treated or untreated wood, wear a NIOSH-approved dust mask.

Eye Protection:

Wear safety glasses with side shields or safety goggles when sawing or cutting.

Skin/Foot Protection:

When handling wood, wear leather or fabric gloves, long sleeve shirt, long pants and steel-toed safety shoes/boots.

Ventilation:

Saw or machine wood in open (outdoor) or well ventilated areas. Provide sufficient ventilation to maintain inhalation exposures below OSHA PEL for particulates.

Hearing Protection:

Wear ear plugs or ear muffs when power sawing and/or cutting wood.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance.....Slightly green-colored  
Odor.....None  
Physical State.....Solid  
pH.....Not Applicable  
Vapor Pressure.....Not Applicable  
Vapor Density (Air = 1).....Not Applicable

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Boiling Point.....	Not Applicable
Melting Point.....	Not Applicable
Solubility in Water.....	Insoluble
Specific Gravity (Water = 1).....	Not Applicable

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## 10. STABILITY AND REACTIVITY

Conditions Contributing To Instability:  
None known.

Incompatibility:  
Strong acids, open flame and oxidizers.

Hazardous Reactions/Decomposition/Combustion Products:  
Contact with strong acid may release metals. Combustion products may include smoke, oxides of carbon and nitrogen, chrome, copper and arsenic. The metals may remain in the ash if the wood is burned.

Hazardous Polymerization:  
Does not occur.

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## 11. TOXICOLOGICAL INFORMATION

### Study Abstracts:

In Hawaii, where over 45,000 homes have been built almost entirely of CCA-treated wood, a study was conducted by the Pacific Biomedical Center of the University of Hawaii (the Budy-Rashad study) in 1977 to determine any possible effect on the health of carpenters. The study concluded that exposure to CCA-treated sawdust is not associated with increased risk of total cancer, lung cancer or lymphatic cancer and shows that excess respiratory cancer mortality was not observed in the carpenters.

A study was conducted by the University of Alabama to evaluate the teratogenicity of CCA-impregnated sawdust when exposed to rabbits and mice. Sawdust from CCA-treated wood has been shown not to cause chromosome damage or teratogenicity in mice fed sawdust nor to cause birth defects in rabbits receiving sawdust applied to their skin.

A series of reports released in 1990 from the Consumer Product Safety Commission (CPSC) assessed the risk of cancer to children playing on CCA-treated wood playground equipment. Seven playground equipment samples were

collected. The results of the study indicated the approximate risk of cancer from five samples was less than one in a million, a risk considered negligible. The remaining two samples yielded estimated risks of 3-4 in a million, also considered by CPSC to be a small risk.

**Carcinogenic status:**

IARC, the NTP, OSHA and California Proposition 65 do not consistently distinguish among arsenic or chrome species but list inorganic arsenic and chromium and certain chromium compounds as human carcinogens. Cancers in humans have followed from long term: consumption of Fowler's Solution, a medicinal trivalent arsenical; inhalations and skin contact with inorganic trivalent arsenical sheep-dust; the combined inhalation of arsenic trioxide (trivalent arsenical), sulfur dioxide, and other particulates from ore smelting in arsenic trioxide production; and occupational exposure to nonwater-soluble hexavalent chromium.

IARC has classified untreated wood dust as a Group I human carcinogen.

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## 12. ECOLOGICAL INFORMATION

**Study Abstracts:**

A technical paper published in the Forest Products Journal (September, 1974) by Levi, Huisingh and Nesbitt described a study conducted to determine if CCA wood preservative in grapevine support posts might be absorbed by the vines, leaves and/or grapes. This study concluded that "... CCA preservatives are bound in wood, are not readily leached and are not concentrated in plants growing close to the treated wood."

The Springborn Laboratories Environmental Sciences Division in 1993 conducted a sediment exposure study using leachate from CCA treated and untreated marine pilings and exposing Ampelisca abdita for a period of 10 days. Survival of the organisms during the 10-day exposure period was the biological endpoint used to establish the effects of exposure. Results indicated that leachate from treated pilings had no adverse effect on organism survival. It was concluded that the primary constituents of the CCA-treated wood piling were not present in the leachate at concentrations which would adversely affect the survival of the organisms.

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13. DISPOSAL CONSIDERATIONS

Disposal Guidance:

Dispose of in accordance with local, state and federal regulations. Treated wood may be disposed of by regular disposal based on the exemption under 40 CFR 261.4(b)(9). This product is not defined as a US-EPA hazardous waste under 40 CFR 261. State-run hazardous waste programs may be more stringent than the federal requirements.

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14. TRANSPORT INFORMATION

DOT Hazardous Material Classification:

This material is not regulated as a hazardous material by the Department of Transportation (DOT).

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15. REGULATORY INFORMATION

OSHA:

This product is regulated by the Occupational Safety and Health Administration (OSHA) under the Hazard Communication Standard (29 CFR 1910.1200).

RCRA:

This product is exempted as a hazardous waste under any sections of the Resource Conservation and Recovery Act (RCRA) regulations as long as the product is being utilized for its intended end use as stated in 40 CFR 261(b)(9).

Superfund (CERCLA/SARA):

If the wood products are treated with levels of preservative not typically used in consumer products, then the wood products in storage must be counted in the threshold determination as required under Sections 311 and 312 of EPCRA.

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16. OTHER INFORMATION

Refer to the Consumer Information Sheet (CIS) for additional information on this product.

While the information and recommendations set forth herein are believed to be accurate as of the date hereof, Hickson Corporation makes no guarantee or warranty, expressed or implied, as to the accuracy, reliability, or completeness of the information.

~~gardens in~~ raised bed structures built of CCA-treated wood were compared with vegetables grown in untreated raised bed structures and with vegetables purchased at a local grocery store. Testing revealed that all vegetables contained minuscule amounts of each element in CCA. In some cases, the levels of metals were actually higher in the vegetables grown in untreated bins, and in one case the store-purchased vegetable had the highest level of arsenic. The report concluded that there was "no uptake of the metal constituents into the vegetables."

The Food and Drug Administration's (FDA) "Market Basket Survey" has consistently shown that arsenic in tomatoes is below the analytical level of detection despite the increased usage of arsenically-treated wood for tomato stakes. Moreover, even though CCA-treated wood has been increasingly used in applications such as cattle bunks and stalls and poultry brooders for the last ten years, the FDA survey has shown a decrease in the arsenic content of dairy, meat and poultry products.

A study funded in part by the National Oceanic and Atmospheric Administration (NOAA) and prepared by the Marine Resources Division of the South Carolina Department of Natural Resources in 1995 measured the impact of wood preservative leachate from docks in an estuarine environment. Copper, chromium, arsenic, and polynuclear aromatic hydrocarbons (PAHs) were measured in composite samples of sediments and naturally occurring oyster populations from creeks with high densities of docks, and from nearby reference creeks with no docks. Sediments from all but one site had metal and total PAH concentrations which were below levels reported to cause biological effects, and the oysters showed no significant difference in their physiological condition. Bioassays were also conducted on four common estuarine species and hatchery-reared oysters. The results suggest that wood preservative leachates from dock pilings have no acutely toxic effects on these common species, nor do they affect the survival or growth of juvenile oysters over a six-week period. In some cases, metal leachates may accumulate in sediments and oysters immediately adjacent to pilings, but do not appear to become concentrated in sediments or oysters elsewhere in the same creeks.



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